VILLAGE OF SLINGER
WASTEWATER TREATMENT FACILITY

2008-2009 Facility Improvements Dedication

120 MBW Road, Slinger, Wisconsin

The newly expanded **Slinger Wastewater Treatment Facility** is designed to treat an average of 1.5 million gallons of sewage a day (MGD). The increased capacity is projected to accommodate Slinger's future residential, commercial, and industrial growth for the next 20 years.

The facility utilizes biological, chemical, and physical treatment to meet and exceed Wisconsin Department of Natural Resources (DNR) effluent limits. Initial processes remove the larger, inorganic materials, followed by a biological system which is designed to duplicate and optimize nature's own naturally occurring treatment processes. At the end of the treatment process, the wastewater is passed through a state-of-the-art disinfection system prior to discharging into the Rubicon River. Biological solids generated during the treatment process are treated and recycled back into the environment.

The existing primary process facility includes three 25-horsepower, variable speed raw sewage pumps, a fine screen with a screenings compactor, and a grit removal system comprised of an induced vortex grit collector and grit washer.

The new secondary process will effectively treat and remove organic materials within a 1.5 million gallon aeration basin. In the aeration basin, naturally occurring bacteria and microorganisms present in wastewater are given optimum conditions to live and multiply, thereby cleansing the wastewater. Two, 60-foot diameter clarifiers separate the treated wastewater from the aeration basin microorganisms. The clarified wastewater flows to the ultraviolet light disinfection system in the final step of treatment. After disinfection, the treated water is now very clean and clear and is metered and discharged into the Rubicon River.

In the wastewater treatment process, solids, dissolved organics, excess microorganisms, and nutrients, such as phosphorus and nitrogen, are removed from the wastewater. Some of these pollutants are collected as a product called biosolids. The new biosolids processing system includes a gravity thickener and a 1.2 million gallon biosolids storage tank, which provides storage, in addition to the existing 633,000 gallon storage tank.

The facility is computer controlled and monitored, which reduces power requirements and saves thousands of dollars annually. The facility utilizes a geothermal heating and cooling system to provide heating and air conditioning for the facility. This type of system is among the most efficient and comfortable heating and cooling technologies currently available because the earth's natural heat is used.

The Village of Slinger, with its newly improved wastewater treatment facility, is well positioned to meet the future wastewater treatment needs of a growing and progressive community!

Design Summary		
FLOW:	Ave. 1.50 MGD=1041 GPM	Peak - 4.65 MGD = 3,227 GPM
Influent:	BOD: 190 mg/l	S.S.: 200 mg/l
Effluent Limits:	BOD: 15 mg/l $N\text{-}NH_3$ - 1.0 mg/l pH - 6.0 to 9.0	S.S.: 20 mg/l Winter - 4.1 mg/l D.O. - 4.0 m/l

A Glimpse At The Upgraded Slinger Wastewater Treatment Facility

Aeration Basin

North Sludge Storage Tank

RAS Building

Plant Overview